

AMENDMENTS TO THE DRAWINGS

Applicants are submitting one replacement drawing sheet including Fig. 5. Applicants have corrected block S21 in Fig. 5 to read " $n = N-1$ " instead of " $n > N-1$." Applicants submit that this change is supported in the specification (see at least page 9, line 15).

Attachment: One Replacement Sheet

REMARKS

Claims 1-4 are all the claims pending in the application.

1. Formalities

Applicants thank the Examiner for acknowledging the claim for foreign priority and for confirming that the certified copy of the priority document has been received.

2. Drawings

Applicants have corrected block S21 in Fig. 5 to read " $n = N-1$ " instead of " $n > N-1$." Applicants submit that this change is supported in the specification (see at least page 9, line 15).

3. Claim Rejections Under 35 U.S.C. § 103

The Examiner has rejected claims 1-4 under 35 U.S.C. § 103(a) as being unpatentable over Kosaka (EP 0427485 A2) ["Kosaka"]. For at least the following reasons, Applicants traverse the rejection.

Applicants believe that it will help expedite prosecution if the Examiner is aware of the general differences between the invention in Kosaka and the present invention. In Kosaka, the original VCV power curve is deformed (or disordered) to connect the ends of the VCV power curve to the neighboring Vs. As is clearly illustrated in Figures 4A to 4C of Kosaka and the related passages in the description (page 6, lines 35 to 50, particularly lines 45 to 50), the shape of the original VCV power curve for a word does not remain after the normalizing process. Because only certain parts of the VCV are exaggeratedly adjusted in the invention in Kosaka, the invention in Kosaka creates a synthesized sound that is not faithful to the original phonemes.

For example, the center of the VCV is not adjusted very much, but the ends of the VCV are adjusted greatly as shown in Figures 4A to 4C. In Kosaka, the adjustment of Figure 4B is added to the original VCV of Figure 4A to obtain the normalized VCV of Figure 4C. Accordingly, the normalized VCV (Figure 4C) is very different from the original VCV (Figure 4A).

In an illustrative, non-limiting example of the present invention, the original VCV power curve does not change its shape in principle. The entire amplitude of the VCV is adjusted by the amplitude adjustment circuit 25 so that the shape of the VCV curve remains substantially the same (see Figures 1 and the Flowchart in Figure 6). Accordingly, the synthesized sound is faithful to the original phonemes. Furthermore, the gap between the current VCV curve and the preceding V is reduced by amplitude adjustment, and the gap between the current VCV curve and the following V is also reduced by amplitude adjustment.

Turning to the specific language of the claims, claim 1 recites a method for synthesizing speech that comprises “summing squares of speech samples in one of said N frames as a frame power value for each frame ... [and] summing squares of signal levels of an n-th frame in said frequency signal to obtain a frame power correction value for the n-th frame.” The Examiner cites the same section in Kosaka and contends that the “normalizing function” disclosed in this section reads on both “summing squares of speech samples” and “summing squares of signal levels.”

Applicants submit that it is improper for the Examiner to use the same element in a prior art reference to contend that it allegedly corresponds to two different claimed elements. The Examiner must choose only one alleged correspondence.

In addition, Applicants submit that Kosaka is completely silent on the claimed summing squares of signal levels. At most, Kosaka discloses that the average vowel power is based on Mel Cepstrum coefficients (page 6, lines 17-22).

As set forth in claim 1, the power of a frame is determined by summing squares of speech samples in the frame. Therefore, Applicants submit that Kosaka does not disclose or suggest at least the claimed summing squares of speech samples or the claimed summing squares of signal levels.

Further, Kosaka discloses that the normalization function cancels the gaps between the average power of the vowels by adding or subtracting this function from the original data (page 6, lines 39-50). Applicants respectfully request further clarification of the Examiner's position as to how this section can read on the claimed summing squares of speech samples and claimed summing squares of signal levels since this section in Kosaka, at most, describes the addition or subtraction of logarithmic parameters.

Because claims 2-4 depend on claim 1, Applicants submit that these claims are patentable at least by virtue of their dependency.

3. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Amendment Under 37 C.F.R. § 1.111
U.S. Serial No. 09/684,331

Attorney Docket No.: Q61111

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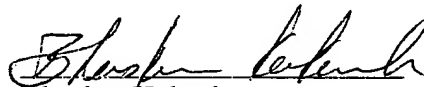
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Date: February 4, 2005